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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Gunter Barrenberg

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07/09/2008

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EXAMINER

MERLINO, ALYSON MARIE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/550,635	Applicant(s) BARRENBURG ET AL.	
	Examiner ALYSON M. MERLINO	Art Unit 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The examiner acknowledges applicant's amendments to claims 1-29 filed 3 March 2008.

Specification

2. The disclosure is objected to because of the following informalities:
 - a. On page 10, line 14, the reference characters following the phrase "plate-shaped tumblers" should be "31.3-34.3."
 - b. On page 11, line 9, the reference character "42.2" should be "42.3" following the phrase "the control edge."
 - c. On page 11, line 12 and line 16, the reference characters following the phrase "the control edges" should be "41.3-44.3."
 - d. On page 18, line 28, the phrase "Figure 4.3a" should be "Figure 4.4a" and the phrase "Figure 1a" should be "Figure 4.1a."

Appropriate correction is required.

Claim Objections

3. **Claims 1-29 are objected** to because of the following informalities:
 - a. In regards to all the claims, it is strongly suggested that the references characters be removed for clarification.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1-29 are rejected** under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. **In regards to all the claims**, it is strongly suggested that the reference characters be removed, since in some instances, the reference characters are relied upon for clarity, when the language of the claims should provide the clarification. For examination purposes, the claims will be examined as if the reference characters were not present.

7. **In regards to all the claims**, in the instances where limitations are recited that pertain to characteristics found in each of the tumblers, it is strongly suggested that limitations be clarified stating that "each" of the tumblers comprise the stated characteristic and not just "tumblers."

8. **Claim 1** recites the limitations "the outer end" in line 20, "the external contour" in line 21, "the inner end" in line 23, and "the facing edge" in line 25. There is insufficient antecedent basis for these limitations in the claim.

9. **In regards to claim 1**, lines 22 and 23, it is unclear to which position applicant is referring in the phrase "the insert being fixed in position in the opening." For examination purposes, the claim will be given a broad interpretation until further clarification from applicant.

10. **Regarding claim 1**, the phrase "comb-like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable.

11. **In regards to claim 1**, lines 54-57, it is unclear to which “other flank” and the “other opposing flank” applicant is referring, i.e. which flank and on which tumbler. For examination purposes, the claim will be given a broad interpretation until further clarification from applicant.

12. **Claim 3** recites the limitation "the normal or reversed position" in lines 5 and 6. There is insufficient antecedent basis for this limitation in the claim.

13. **In regards to claim 5**, it is unclear what applicant intends to claim with the phrase "offset from each other in the height direction in the case of the tumblers with control edges in different positions." Specifically, it is unclear whether applicant intends to claim that each tumbler has specific flank positions and corresponding control edge positions. For examination purposes, the claim will be given a broad interpretation until further clarification from applicant.

14. **In regards to claim 7**, it is unclear from the language whether the teeth have the same profile or not, specifically in regards to the limitations concerning the flanks. Furthermore, it is unclear to which "pairs of flanks" applicant is referring, i.e. a specific pair of flanks on a specific tooth, each pair of flanks on each tooth. For examination purposes, the claim will be given a broad interpretation until further clarification from applicant.

15. **Claim 7** recites the limitation "the normal teeth" in line 9 of the claim. There is insufficient antecedent basis for this limitation in the claim.

16. **In regards to claims 7-29**, the claims are replete with lack of antecedent basis instances, and should be thoroughly reviewed in order to correspond with the claims from which they depend.

Claim Rejections - 35 USC § 102

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. **Claims 1-29 are rejected** under 35 U.S.C. 102(b) as being anticipated by Cook (US-5826451).

19. **In regards to claim 1**, Cook discloses a lock cylinder (Figure 4) including a cylinder housing 42 and a cylinder core 12 rotatably support in the housing (Figure 4), and a key 44 with a defined longitudinal profile being assigned to the core (Col. 9, lines 45-54). Cook further discloses a group of diametric shafts 30 arranged in a row in the axial direction of the cylinder core (Figure 1), which hold plate-shaped tumblers 14 that include longitudinal edges that are free to slide longitudinally along guide surfaces 28b (apparent from Figure 4) of the shafts, and that the tumblers are spring loaded (Col. 22, lines 6-20). Cook discloses that each tumbler has a control edge (edge of portion 14a, Figure 4) in correspondence with the longitudinal key (Figure 4), and each control edge being located at a defined height (apparent from Figure 5). Cook further discloses a radial opening (opening near reference character 23, Figure 1) in the cylinder core for insertion of an insert 16, with an outer end (surfaces above and below portion near

indicator of reference character 48, Figure 4) of the insert never projects beyond an external contour of the cylinder core after insertion of the insert in the opening with the insert being fixed in position (fixed longitudinally in position between upper and lower components 18, Figure 4) in the opening, whereas an inner end (end near reference character 16a, Figures 2 and 3) always engages a cutout (portion near reference character 14b, Figure 1) in the facing edge of the longitudinal plate edge of the tumblers (Figures 4 and 5) during operation of the lock cylinder (apparent from Figure 4). Cook also discloses that the tumblers are secured in the cylinder core (apparent from Figures 4 and 5), and that the insert includes a comb-like body (apparent from Figures 2 and 3) with teeth (portions near reference characters 16a, 16b, and 16c, Figures 2 and 3) that have inner ends that include a profile with at least one pair of oppositely-facing flanks (edges of portions 16a, Figure 4). Cook discloses that the cutouts in the tumblers have at least one pair of opposing flanks (portions engaging flanks of insert, Figure 4), which are in different positions on the tumblers (apparent from Figures 2 and 3), and the flank pairs and the opposing flank pairs are arranged so that the control edges of at least two tumblers are at the same height (as shown in Figure 3). Cook further discloses that between a rest position and an actuated position that one of the flanks rests against an opposing flank (apparent from movement shown in Figure 5).

20. **In regards to claims 2, 3, and 4**, Cook discloses a plurality of similar cylinder cores (Figures 4-6) can be used with a set of different combs (combs shown in Figures 5 and 7-13) that are provided with different profiles. Cook further discloses that the teeth of the combs have similar profiles and are arranged in different sequences on the

comb (Figures 4-13) where the comb is used with a cylinder core of uniform type (apparent from Figures 4-13). Cook also discloses that the profiles of the teeth on the comb are of similar design (Figures 2 and 3).

21. **In regards to claim 5**, Cook discloses that the opposing flanks of the cutouts are offset from each other in the height direction (Figures 4 and 5).

22. **In regards to claim 6**, Cook discloses that the inner ends of the teeth of the comb are convexly profiled (apparent from Figures 4 and 5) in the radial direction with at least two pairs of flanks (Figures 2-4), which are at different heights (Figures 2 and 3), and that the cutouts in the tumblers are concavely profiled (apparent from Figures 4 and 5) in the radial direction and have sections which form at least two pairs of opposing flanks (Figures 2-4).

23. **In regards to claim 7**, Cook discloses that the teeth are positioned in similar openings of the cylinder core in two orientations (placement as shown in Figures 1-3).

24. **In regards to claim 9**, Cook discloses that the maximum point of the tooth profile (near reference character 14b, Figure 4) is positioned in the cylinder core so that it “essentially” lies on a traverse plane (plane extending from side of core with insert towards side with reference character 12, Figure 4) of the cylinder core.

25. **In regards to claim 10**, Cook discloses that a tooth of the comb has two pairs of flanks, an inner pair (flanks on either side closest to reference character 48, Figure 4) which are closer to the transverse plane (Figure 4) and an outer pair (flanks opposite the inner pair, Figure 4) which is further away from the transverse place (Figure 4).

Claim Rejections - 35 USC § 103

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

27. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

28. **Claims 8 and 11-29 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Cook (US-5826451).

29. **In regards to claims 8 and 11-29**, Cook discloses that the insert can include many different shaped teeth (as shown in Figures 4-13) to engage correspondingly shaped cutouts in the tumblers (as shown in Figures 4-13). Since Cook discloses that the insert can be designed to have teeth of varying shapes to engage corresponding cutouts on tumblers of a cylinder core, it would have been obvious to one of ordinary skill in the art at the time the invention was made to change the shape of the teeth of the insert and the cutouts of the tumblers in order to allow more variations of the tumbler

and insert combination to enhance the security and versatility of the cylinder lock. Furthermore, there is not indication in the claims that the shape of applicant's insert and the corresponding cutouts is critical to the function of the cylinder lock, only that the shape of the teeth of the insert and the cutouts correspond so that they may engage each other. Therefore, since Cook discloses that the insert and cutouts can vary in shape, it would have been obvious to one of ordinary skill in the art at the time the invention was made to change the corresponding shapes of the insert, as disclosed by Cook, since a change in the shape of a prior art device is a design consideration within the skill of the art.

Response to Arguments

30. Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

31. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

32. In regards to applicant's remarks concerning the tumblers, as set forth in the rejection above, Cook discloses that the tumblers are capable of being spring-loaded. In regards to applicant's remarks concerning the insert, applicant is referred to the rejection set forth above.

33. In regards to applicant's remarks concerning the locking bar of Cook, component 16 of Cook can be considered as a comb because it includes the claimed structure.

34. The examiner appreciates applicant's submittal of the appropriate drawings, and therefore, the drawing objections and 112 rejections set forth in the previous office action are withdrawn.

35. The examiner appreciates applicant's amendments to the specification and claims 1, 18, and 22, and therefore, the rejections and objections set forth in the previous office action are withdrawn.

36. As noted in the rejection above, it is strongly suggested that the reference characters be removed from the claims. Within the claims, it is apparent that the reference characters are relied upon for clarification; this should not be the case. The claims language should be clear on its own, without the use of reference characters to clarify to which component or function the limitation is referring.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALYSON M. MERLINO whose telephone number is (571)272-2219. The examiner can normally be reached on Monday through Friday, 7:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Engle can be reached on (571) 272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3673

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patricia L Engle/
Supervisory Patent Examiner,
Art Unit 3673

AM
July 7, 2008